

WHAT IS CLAIMED IS:

1. A semiconductor device comprising:

a first conductive part;

5 an insulator film having an opening formed on said first conductive part; and

a second conductive part electrically connected to said first conductive part through said opening, wherein

10 said insulator film includes an upper insulator film and a lower insulator film, stacked/formed at least around a connection part between said first conductive part and said second conductive part, consisting of different materials.

15 2. The semiconductor device according to claim 1, wherein

said lower insulator film contains a material having a higher etching selection ratio than said upper insulator film.

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3. The semiconductor device according to claim 2, wherein

25 said first conductive part contains a material having a higher etching selection ratio than said lower insulator film.

4. The semiconductor device according to claim 3,  
wherein

said first conductive part includes a silicified  
5 element electrode,

said lower insulator film includes a silicon nitride  
film, and

said upper insulator film includes a silicon oxide  
film.

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5. The semiconductor device according to claim 4,  
wherein

said element electrode includes a silicified gate  
electrode, a silicified source electrode and a silicified  
15 drain electrode.

6. The semiconductor device according to claim 4,  
wherein

said silicon nitride film is formed to be in contact  
20 with areas of the surfaces of said silicified electrodes  
except those exposed in said opening.

7. The semiconductor device according to claim 2,  
wherein

25 said lower insulator film includes an SOG film.

8. A method of fabricating a semiconductor device,  
comprising steps of:

forming an insulator film including a multilayer film  
5 of an upper insulator film and a lower insulator film  
having a higher etching selection ratio than said upper  
insulator film on a first conductive part;

etching said insulator film thereby forming an  
opening reaching said first conductive part; and

10 forming a second conductive part connected with said  
first conductive part through said opening.

9. The method of fabricating a semiconductor device  
according to claim 8, wherein

15 said first conductive part contains a material having  
a higher etching selection ratio than said lower insulator  
film.

10. The method of fabricating a semiconductor device  
20 according to claim 8, further comprising a step of  
silicifying said first conductive part in advance of said  
step of forming said insulator film.

11. The method of fabricating a semiconductor device  
25 according to claim 10, wherein

said first conductive part includes a gate electrode,  
a source electrode and a drain electrode, and

said step of silicifying said first conductive part  
includes a step of silicifying the surfaces of said gate  
5 electrode, said source electrode and said drain electrode.

12. The method of fabricating a semiconductor device  
according to claim 8, wherein

said lower insulator film includes a silicon nitride  
10 film,

said upper insulator film includes a silicon oxide  
film, and

said step of forming said opening includes a step of  
forming said opening by etching said upper insulator film  
15 and said lower insulator film by dry etching with gas  
having a composition of  $C_xH_yF_z$ .

13. The method of fabricating a semiconductor device  
according to claim 12, wherein

20 said gas consisting of  $C_xH_yF_z$  includes gas consisting  
of  $C_4H_8$ .

14. The method of fabricating a semiconductor device  
according to claim 12, wherein

25 said silicon nitride film forming said lower

insulator film is formed to be in contact with the surface of said first conductive part.

15. The method of fabricating a semiconductor device  
5 according to claim 8, wherein

said step of forming said opening is carried out by dry etching through a high-concentration plasma device.

16. The method of fabricating a semiconductor device  
10 according to claim 8, wherein

said lower insulator film includes an SOG film.